

## DESCRIPTION OF TWO NEW LAND SHELLS FROM SOUTHERN CALIFORNIA

By G. WILLET

*Micrarionta reedi* new species. Shell large for the group, whorls convex, sutures distinct; last whorl strongly descending behind peristome. Umbilicus wide and deep, contained about six times in diameter of shell. Aperture strongly oblique; peristome thickened, expanded, encroaching somewhat on the umbilicus. Embryonic whorls covered with irregular, elongate papillae, some of which have their long axes parallel to the suture and others at various angles to it. Later whorls smooth, except for lines of growth. Color of living specimens light brown, encircled at the shoulder by a very dark brown (almost black) band, about one millimeter wide, with indefinitely defined lighter zones above and below.

*Type:* No. 1019 Collection Los Angeles Museum. Paratypes in collections of S. S. Berry, Fred M. Reed and the writer. The type and 24 additional specimens were collected by the writer under rocks in Palm Canyon, Borrego Valley, San Diego County, California, April 28, 1929. Many other dead and faded specimens were seen scattered along the bottom of the canyon.

	Max. Diam. mm.	Min. Diam. mm.	Alt. mm.	Diam. Umbil. mm.	Number of Whorls
Type .....	21.7	18.3	12.3	3.6	5
Paratype (dead shell)....	23.5	19.6	13.4	3.9	5¼

**REMARKS:** This is the largest of the known California *Eremariontas*, with the exception of *E. wolcottiana* Bartsch, from which it is distinguishable at sight by its open umbilicus and more depressed form. The irregular arrangement of the papillae on the nuclear whorls is also different from any other species known to the writer.

The credit for the discovery of this handsome and strongly marked species belongs to Mr. Fred M. Reed, of Riverside, California, in whose honor it is named. The type locality was visited by the writer after Mr. Reed had sent to the Los Angeles Museum two dead specimens taken by him April 4, 1929.

*Micrarionta ora* new species. Shell depressed, whorls convex, sutures distinct; last whorl strongly descending behind peristome. Umbilicus wide and deep, contained about five and one-half times in diameter of shell. Aperture strongly oblique; peristome somewhat thickened, rounded, encroaching slightly on the umbilicus. Nepionic stage covered with irregularly shaped papillae, some of which are more or less rounded and others oblong.

the axes of the elongated papillae being almost at right angles to the suture. At the beginning of the neanic stage, which embraces about one and one-fourth turns, the papillae become more elongated and regular, being in alternate rows, with their axes parallel to the suture. In the type specimen these papillae are regular and distinct and show little indication of fusion, as in *M. harperi* Bryant. On the subsequent whorls the papillae are much smaller, more rounded and more widely scattered, and are apparently absent on the last third of the last whorl. Base free from papillae, excepting in the aperture and in the umbilicus. Color of shell white or ivory yellow, passing into brownish on spire; a narrow brown band about .6 mm. wide encircling the shoulder.

*Type:* No. 1018 Collection Los Angeles Museum. Paratypes in collection of the writer. The type and eleven additional specimens were collected by the writer in rock slides near the north end of Fish Mountains, Imperial County, California, about three miles from the settlement of San Felipe, March 31, 1929. Three additional specimens, apparently referable to this form, were taken at Yaqui Wells, San Diego County, about ten miles from the type locality, April 28, 1929.

	Max. Diam. mm.	Min. Diam. mm.	Alt. mm.	Diam. Umbil. mm.	Number of Whorls
Type .....	18.4	15.4	10.9	3.4	5
Paratype .....	16.9	14.2	9.5	2.9	4 $\frac{3}{4}$
Spec. from Yaqui Wells	18.1	15.4	10.8	3.0	4 $\frac{7}{8}$

REMARKS: It is entirely possible that, when the ranges bordering the southwestern portion of the Colorado Desert are thoroughly worked, this form may prove to be only subspecifically distinct from the shell now known as *M. orcutti* Bartsch. It may even be found that *orcutti* and *ora* are both subspecies of *M. harperi* Bryant. The material at hand at this time, however, shows *M. ora* to differ strongly from typical *orcutti* in much smaller umbilicus, and from *harperi* in much lighter papillation and in lack of same on base of shell and on the last third of the last whorl. Furthermore, if recorded specimens of *orcutti* and *harperi* are adult shells, *ora* is considerably larger than either of them.

Recent descriptions of species of this group of *Micrariontas* have almost invariably placed great importance upon the differences in the scheme of papillation of the nuclear whorls. In fact, the reader of these descriptions would receive the impression that there was little variation in this regard within the species, and that such variations might be regarded as specific characters. A study of the nuclear characters of *M. ora* would seem to point to the conclusion that the importance of differences of papillation may have been over-emphasized, possibly due largely to scanty material. The arrangement of papillae described in the type of *M. ora* seems to be the usual one in the species, but there is consid-

erable variation in the type series. In some specimens the papillae merge into slender lines, some of which lines run diagonally to the suture and others parallel with it. In others some of the papillae merge in such a way as to form more or less rectangular, shallow pits.

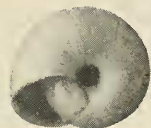
The writer names this species in honor of his wife, Mrs. Ora Willett, who assisted in collecting the type series and who, for several years past, has rendered valuable aid in the field.

Los Angeles Museum.

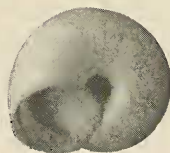
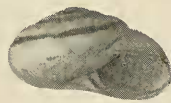
June 15, 1929.

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NOTE: As this article goes to press we are in receipt of the Nautilus for October, 1929, in which S. Stillman Berry has given the name *Micrarionta boregoensis* to the shell described above as *Micrarionta reedi*. Dr. Berry's description having priority, *reedi* becomes *nomen nudum*. The receipt of this publication at this late date makes it impossible to withdraw the above description.



*Micrarionta ora*. Type.



*Micrarionta reedi*. Type.

PLATE 6.